

We claim:

1. A method of ovulation induction in a female host comprising the administration of a non-polypeptide cAMP level modulator to said host.

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2. A method of Claim 1 wherein said cAMP level modulator is a phosphodiesterase inhibitor.

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3. A method of Claim 2 wherein said phosphodiesterase inhibitor is an inhibitor of a phosphodiesterase 4 isoform.

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4. A method of ovulation induction in a female host comprising the administration of a non-polypeptide cAMP level modulator to said host prior to the luteal phase of the host's ovulatory cycle.

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5. A method of Claim 4 wherein said non-polypeptide cAMP level modulator is a phosphodiesterase inhibitor.

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6. A method of Claim 5 wherein said phosphodiesterase inhibitor is an inhibitor of a phosphodiesterase 4 isoform.

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7. A method of a combined treatment for stimulating follicular development and ovulation induction in a female host comprising the administration of an agent which increases follicle stimulating hormone concentrations in said host during the follicular phase of the host's ovulatory cycle and administering a non-polypeptide cAMP level modulator to said host prior to the luteal phase of the host's ovulatory cycle.

8. A method of Claim 7 wherein said agent is follicle stimulating hormone.

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9. A method of Claim 7 wherein said agent is clomiphene.

10. A method of Claim 7 wherein said agent is a selective estrogen receptor modulator.

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11. A method of Claim 7 wherein said agent is an aromatase inhibitor.

12. A method of Claim 7 wherein said agent is an inhibitor of related steroidogenic enzymes that results in a decrease in total estrogen production.

13. A method of Claim 7 wherein said non-polypeptide cAMP level modulator is a phosphodiesterase inhibitor .

5 14. A method of Claim 13 wherein said phosphodiesterase inhibitor is an inhibitor of a phosphodiesterase 4 isoform .

10 15. A method of Claim 7 wherein lutenizing hormone is also administered to said host to induce ovulation prior to the luteal phase of the host's ovulatory cycle.

16. A method of Claim 7 wherein lutenizing hormone is also administered at reduced concentrations compared to existing regimens to said host to induce ovulation prior the luteal phase of the host's ovulatory cycle.

15 17. A method of Claim 7 wherein chorionic gonadatropin is also administered to said host to induce ovulation prior the luteal phase of the host's ovulatory cycle.

20 18. A method of Claim 7 wherein chorionic gonadatropin is also administered at reduced concentrations compared to existing regimens to said host to induce ovulation prior to the luteal phase of the host's ovulatory cycle.

25 19. A method of ovulation induction in a female host comprising the administration of a non-polypeptide cAMP level modulator to said host at the time point of an existing ovulation induction regimen at which hCG or LH is administered to said host.

30 20. A method of Claim 20 wherein the non-polypeptide cAMP level modulator is co-administered with hCG or LH.

35 21. A method of Claim 20 wherein the non-polypeptide cAMP level modulator is administered alone and not co-administered with hCG or LH.

22. A non-polypeptide cAMP level modulator for its use as an ovulation induction agent.

23. A non-polypeptide cAMP level modulator for its use in the treatment of an anovulation disorder.

5 24. A pharmaceutical composition containing non-polypeptide cAMP level modulator, for its use in the treatment of an anovulation disorder.

10 25. Use of non-polypeptide cAMP level modulator in a pharmaceutical composition for the treatment of an anovulatory disorder.

15 26. Use of non-polypeptide cAMP level modulator for the preparation of a medicament to be used in the treatment of an anovulatory disorder.

20 27. A method of collecting oocytes for in vitro fertilization comprising the administration of a non-polypeptide cAMP level modulator.

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